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ABSTRACT

The structure and quality of classroom interaction and the ways in which children learn how to interact appropriately was the initial focus of the research and field work described in this paper. The site was a kindergarten/first grade class in a suburban Boston Title I elementary school with many students from second and third generation Italian-American families. At the outset the primary research tools used were collection and analysis of videotaped classroom activities and behavior and discussion sessions involving the teacher and the researcher. A participant observation component was later added to the project, and the researcher then visited the classroom on a weekly basis. This change in research technique indicated a new direction for the project--that of making the teacher a co-researcher. Since the research was being done in a context of discovery rather than proof, the researcher and the teacher together were able to focus on isolating, describing, and discovering the dynamics of the classroom environment (how it functions, what is predictable, what kinds of breakdowns occur). It was suggested that teachers could share in this discovery process in the absence of a trained researcher and become sources of idea exchange and dialogue for one another. This method might be applied on a larger scale in schools where there is a need for inservice training and continuing education courses designed to help teachers share experiences and raise individual self-esteem and awareness. (MM)

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The Teacher as Colleague in Classroom Research

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Introduction

The research and field work described in this paper has been taking place in a kindergarten/first grade class of five and six year olds. The school is a suburban Boston Title 1 elementary school. The children are primarily from two parent, lower middle class families. This class and the general school population tends to have large numbers of students from second and third generation Italian-American families. It is a neighborhood school qualifying for additional state support.

The teacher has eight years of experience in early childhood education. She has taught solely at this school but has been continually open to new ideas and experiences. The teacher encourages visitors from families and the larger community to participate in classroom activities. She has worked with high school and adult aides, student teachers, and teacher supervisors.

The researcher is an advanced doctoral student at the Harvard Graduate School of Education. Prior to entering graduate school she was a teacher of junior high school language arts. Convinced that her students were quite competent communicators of referential and social meaning (despite the skills they may have lacked in the fine points of writing or grammar), she hoped to discover by means of field work in primary school classrooms something about the structure and quality of classroom interaction and the ways in which children learn how to interact appropriately in the classroom (Byers and Byers, 1972; Cazden, 1970; Cazden, John, Hymes, 1974).

At the outset the primary research tools used were collection and analysis of videotape and viewing sessions.[1] However, this researcher, feeling the need to increase her knowledge and experience of the larger ethnographic context out of which this data was drawn, introduced a participant observation component to the project. She has visited the classroom on a weekly basis during this academic year.

Beginning the Research

Both the teacher and the researcher held several unanalyzed and preconceived assumptions about the nature and purposes of classroom research. Before the tapings the project wasn't seen as a learning experience by the teacher. The teacher volunteered to participate initially feeling that she wouldn't be changed in the least. However, among her unstated assumptions were that teachers do things wrong and 'outsiders'—researchers—come in to fix or criticize them; and that educational research is carried out where and when a setting is in need of altering. She was confused about the actual purposes of the study. Her initial questions were, "How did they find me?" and "What can I do for them that someone else couldn't do better?" Her decision was that she would do what she had done for the past seven years, and they were welcome to observe. If they learned from her or liked what they saw, *great*!; but she she was not going to worry about any negative implications of her involvement.

The former teacher and fledgling researcher entered the setting with assumptions about classroom research as well. These assumptions came out of three points of view commonly held in

the literature and practice of educational research:

(1) that research is conducted in the context of 'proof,' or that outsiders observe phenomena in order to evaluate needs, prescribe treatments, and then prove or disprove the effectiveness of those treatments

(2) that it is possible to observe a phenomenon as complex as a classroom easily, systematically, and 'objectiviely' (perhaps by means of a coding scheme) and thereby arrive at a meaningful description and understanding of the phenomenon

(3) that the needs and questions of a classroom ethnographer (rather than a classroom supervisor of some sort)probably do not overlap or articulate with those of the classroom teacher

Changes of Perspective

The teacher's attitude changed as she had more contact with the researcher. Classroom taping without participant observation left little time for communication. It took on the aspect of traditional classroom research. The researchers gathered data—eyes glued to cameras or ears tuned to headphones. They would tape, take notes, pack up, and leave. Though not put off by them, the teacher did not feel particularly included or tuned in to exactly what they were looking for.

The viewing sessions gave teacher and researcher(s) their first chance to get involved with each other. It was through these sessions and small group discussions that the teacher's perspective began to change; she began to see herself as a member of the team. Naturally the process took time. At first, although told to watch and comment freely, she wasn't clear about what was expected of her. The sessions were very open-ended. The teacher still saw herself as an object of investigation, unable to generate any of the questions and capable of giving only right

and wrong answers. The tapes were valuable to her at this time as an awakening tool, but she was unsure of what others wanted to get from them or in what light she should comment while viewing.

A great deal of the teacher's discomfort was in response to the researchers' own vague ideas of how to proceed at this point. Unlike many social scientists they did not have an explicit format of hypotheses, data collection and analysis, conclusions. Having chosen to adopt an ethnographic stance, they seriously intended the questions: "What's happening here?" and "What do you see in the tapes?" Yet their roles as 'experts' and researchers helped to communicate an uncomfortable double message to the teacher.

Gradually the group has developed a sense of trust, a personal rapport, and—not surprisingly—a more clearly defined set of research goals. They have gotten to know each other as individuals in the classroom, at the viewings in university offices, and at informal dinners; they have also gotten to know a great deal more about the research process.

Research in the Context of Discovery—The Joint Enterprise of 'Participant Observer and Observant Participant'

The participant observer entered the classroom with the rather vague and naive idea that by means of various research tools she could learn something about what goes on in the classroom, share her insights with the teacher, and thereby leave the

teacher with something that would 'make a difference' in the confrontation and solution of day to day classroom problems.

As a result of her experience as both participant and observer in the room, she was forced to both reconsider the complexity of the phenomenon she hoped to document and perhaps influence; and to make explicit and question critically her assumptions about why and how one engages in classroom research.

Despite a background in the literature of classroom interaction and experience as a nonparticipant classroom observer, the researcher found herself 'just teaching' as she spent more and more time with the children. Her awareness of sociolinguistic issues did not automatically change anything that she could see or feel in her own behavior as she engaged in daily activities with the children.

What was different, however, was the kind of disciplined reflection she forced herself to engage in after each day was over. Having adopted the role and perspective at least partially of a field researcher, she was inclined to think through the day's events in the form of written field notes. She often considered events in light of what she knew about the functions of language and nonverbal behavior in social context (Hymes, 1974; Gumperz, 1971; Erickson, 1975). She also had the added available resource of videotapes of typical daily activities. Thus she was able to step out of the thick of events and take a second (and often a third) look at the kinds of events that transpired in the room and the roles that people played in them.

Gradually the researcher realized that if her experience as a participant observer was different at all from what it had been as a teacher in her own classroom a few years ago, it was in that she was becoming more sensitive to the dynamics of everyday life in classrooms. She also had more time and tools available for reflection about classroom events- the formation and disbanding of groups, the eruption of arguments, the management of interruptions, demonstration of the mastery of academic skills.

An anecdote reported in the early field notes illustrates the experience:

"I was playing Candyland with a group of students. It was the fourth day of school and the first where I was not preoccupied with videotaping. During the taping of the first three days of school and in conversation with the research team that had been there for the taping, and now—most noticeably—during the game, I was unable to refrain from forming strong impressions of most of the children. One of the boys in the group (Harry) seemed to me to be manipulative. At cleanup time he did not join in, and I attempted to get him to help in the effort. Uncertain of my authority in a room where I was not the teacher, and therefore hesitant to issue an imperative, I deliberately said instead, 'Harry, will you help us put away the game now?' He replied simply, 'No.' At that point the teacher, having overheard the exchange, said, 'Alright, Harry, go over and help them clean up.'

This incident can be thought about in a number of ways. It may be that, in fact, Harry, being new both to me and to the kindergarten, misunderstood the discourse function of my utterance and responded to it as a yes/no question rather than a command. However it is also possible (and something in my teacher's intuition says more likely) that he fully understood what I had meant but was quite able to take advantage of my uncertain position of authority (expressed especially in my linguistic choice) and was almost successful in opting out of the cleanup job.

In any case, thinking about the event and about the intuitions that I already have about Harry and where they may have come from, it occurs to me that my theoretical perspective and field methods may not be able to alter the way people act in social encounters, but they may at least put some extra steps between those social encounters and the ways we think and feel about students. If teaching is largely a matter of forming and testing hypotheses

about children, then it seems like a good idea to have as much data available as possible—to have many ways of thinking about and accounting for what we observe, experience, and do with children."

The researcher began to speculate that the change of perspective she was experiencing might also happen to the teacher if she were invited to become more intimately engaged in the research process. The early insight was critical for the researcher in defining, with the teacher, both what the nature of their relationship and the goals of the research might be.

As the researcher spent more time in the classroom, the teacher felt more comfortable and better informed. The teacher felt that she was beginning to have a definite hand in the research. She realized that although teachers do not have time to be ethnographers in their own classrooms, they can become more observant participants. New insights and questions generated by the teacher and researcher could be checked out by the teacher by means of reflection during and after teaching. This enabled her to become a part of the process, not just a source of data.

The researcher put great effort into incorporating the teacher into the game plan. Constant contact with the research process helped the teacher to see herself as a relevant member. During the second year of the project the teacher also has received a salary. This has been a tangible demonstration of her membership and has provided additional motivation for her to take an active role.

During the second year of the project the teacher's views have been actively sought. Classroom participation by the researcher allows more time for conversations than was pre-

viously provided by viewing sessions. Although during the morning, while in contact with the children, the separate roles of teacher and researcher are often maintained, there is more time for collaboration. Observations can be shared on-the-spot and during release time. Frequently, however, there still remain days when all that can be managed by each person, busy with separate roles, are 'Hello' and 'Good-bye.'

The Blending of Roles

One of the first and most thorny areas of joint discovery for teacher and researcher concerned the idea of 'change.' The issue of whether the research intended to change anything in the classroom was a problem for both teacher and researcher. Since so many strangers in classrooms engage in some sort of intervention, the role of participant observer implied, almost by definition, that this might by the goal of the project. However, ideas about the complexity of behavior and about what might be meant by 'change' have grown and been refined in the teacher/researcher dialogue almost from the outset. In fact, thoughts about change are probably more modest now than they have ever been. The teacher is not seen as someone in need of a 'treatment;' and the researcher, now less an outsider, is not seen as a conventional change agent.

Like any teacher, this one has particular classroom problems; and the researcher, of course, has a personal agenda of researchable questions. However, it has been interesting to discover just how much these two domains overlap. Since each hopes

to be helped with the individual issues by sharing the diverse perspectives and kinds of expertise brought to the experience, both the teacher and the researcher can be said to be in some sensed 'changed' by the other.

An example of how the teacher's thinking has been effected by her involvement with the research effort is demonstrated in this anecdote:

"There are specific problems which might be addressed with videotapes and analysis. One of these is the question of Jerry and the issue of whether he is suffering or benefitting from his remedial, bilingual tutorial help.

The issue of interruption and speculation about the pros and cons of taking children out of the classroom for extra help has been discussed before by the teacher and the researcher. Some children clearly benefit from the help, and it seems worthwhile to sacrifice their classroom time and place them in a new social setting with yet another adult/evaluator in the interest of mastery of some fundamental skill. However, for other students, like Jerry, the added social complications of special help may, in fact, interfere with the mastery of those skills.

In Jerry's case, the tutorial help doesn't seem to be working. The tutor manifests a different style than the teacher. It appears that the tutor encourages Jerry's dependence on her. He can't function when he returns to the regular class.

The teacher has raised the problem in conversation with the researcher. They have noted that the ethnic identity of Jerry and the Italian teacher, combined with the tutor's lack of experience in classrooms, and finally combined with her obvious terperamental differences from the regular classroom teacher may make learning with the tutor a very different kind of experience than learning with the regular classroom teacher.

The teacher has suggested that an examination of the ways in which tutor and classroom teacher behave differently might be useful in both understanding and creatively solving the problem. She has suggested that each professional observe and/or view videotapes of the other in an attempt to discover how their own behaviors differ and how Jerry works differentially with them."

The task for the researcher, on the other hand, has been to become more and more a part of the scene. She is continually asking, looking, and being with the children. Yet it is important for her to be both "stranger and friend" (Powdermaker, 1966),

preserving a kind of 'double vision' which enables her to account in some larger arena for how and why things make sense to those members in the ways they do.

For the teacher, the task is curiously reversed. She is continually immersed in the fray, and, like many other teachers, experiences lonliness and frustration in that immersion. The teacher has learned gradually to look at her classroom problems not only with the company of her researcher colleague, but to reflect on her own using more of the perspective and techniques demonstrated by the new colleague. She is reflecting on what she thinks, does, and absolutely knows about her class. She is an insider gaining some internal distance on her role, and this enables her at certain moments to see the familiar in a new way.

Concretely this curious blend of roles has generated a procedure for classroom research in which both teacher and researcher work closely in the posing of researchable questions, the formulation of hypotheses, the gathering and analysis of data

Procedure

Both the teacher and researcher agreed early on that classroom research ought to address the daily concerns of teacher and children and not merely be descriptive—or prescriptive. The way of working which they have devised comes out of this shared bias. They are interested not only in addressing questions about classroom interaction, but in examining as a phenomenon in its

own right the process of change of perspective and consciousness that occurs for both of them as they engage in joint research.

The procedure has four components that are carried out jointly by teacher and researcher. They are organized chiefly by the researcher. The components are participant observation, selective videotaping of classroom activity, joint viewing sessions, and some microanalysis of taped segments.[2]

There is ongoing generation of questions for research. Questions can come from many sources - the problems of individual children, the effects of room organization, the disruptions that occur and their possible causes.

Once a question of mutual interest is selected, the investigation proceeds by going back through videotapes and field notes previously collected and by collecting new tapes and observations. The team tries to find instances of the particular problem raised and then begins to generate hypotheses that might answer the question. Finally, by means of viewing and microanalysis of segments as well as focused classroom observation, they attempt to locate <u>in actual behavior</u> the sources of the issues raised and thereby validate or disprove their informed hunches. They have discovered that working this way serves both to provide a rich ethnographic context for microanalysis and to diffuse the anxiety usually associated with self-analysis by means of videotape.

In making the collaborative process a subject for study as well, the team carefully documents meetings to try to keep

track of their insights, their unique approaches and analyses, and the ways their perspectives are modified as a result of dialogue and joint inquiry.

As a final component, the team has been attempting to think about and monitor instances of behavioral change— spontaneous and/or deliberate— that occur in the classroom as a result of the joint study.

A Case Study

This case study is intended as an illustration of the research method. It is work in progress, and therefore the reporting of it is neither detailed nor conclusive.

The teacher and the researcher arrived at the problem for study in several ways. The teacher had mentioned one day over coffee that she was curious about why one first grade student (Arthur) was able to 'get to her' in a way that another student (Louise) was not. The researcher recorded this comment in field notes.

About a month later the teacher and researcher were again engaged in casual conversation about the classroom when the teacher repeated her question about Arthur and Louise. The teacher was surprised to learn that the researcher had previously noted it as one of the teacher's concerns. They decided to pursue the question since it had emerged as salient for both of them— Arthur and Louise being children frequently discussed by the teacher and appearing often in the researcher's field notes.

The research process began with a directed conversation about the two children. The team of teacher and researcher discussed similarities and differences between Louise and Arthur. They were both first graders who tended to talk a great deal, yet they seemed to be treated very differently by their peers—Arthur as a leader among them and Louise as an object of teasing and exclusion. They also had differential success in gaining the floor (Philips, 1974) in large class meetings or circles.

With these observations in mind the team went back through videotapes collected during the very first weeks of school. They chose to look at circles because they were contexts in which both of the children appear and in which teacher and peers are also visible. The team noted the following regularities as they viewed these tapes:

> Louise and Arthur tended to dominate the circle times. They talked and moved a great deal and were 'noticed' often by the teacher.
>
> Louise and Arthur seemed to be 'doing the same things' in their attempts to gain the floor, but Arthur clearly had a great deal more success than Louise.
>
> The similar behaviors of Arthur and Louise included sitting on the outer edge of the group, raising hands, shifting from sitting to kneeling positions, moving toward and away from the teacher, and verbalizing a great deal.

The team then selectively taped another typical circle in order to determine whether these regularities still occurred some six months into the school year. This tape was again of the entire class during a circle.

The team watched the tape without sound, hoping thus

to pay primary attention to the large scale movements of Louise and Arthur and not to be distracted for the moment by their speech. Even without microanalysis, certain behaviors again emerged as common to both of the children of interest. They included kneeling/sitting; raising/waving of hands; and leaning toward or away from the teacher.

These behaviors were chosen for microanalysis for no other reason than that they seemed to 'jump out' at the viewers from the tape. They seemed to be the major ways in which the children of interest were expending energy (Pike, 1971).

For the purposes of microanalysis the team carefully watched a four minute segment at the beginning of the circle noting variation in the behaviors mentioned. They looked for beginnings, endings, and changes of intensity. A fourth category—presence or absence of talk—was added to the analysis, but the content of that talk was excluded.

Upon charting variations in these behaviors, the team discovered that, indeed, there were similarities between the behaviors of Louise and Arthur. However, there were some important differences in what might be called the efficiency with which the two children manifested the behaviors.

It appears from the charts that when Arthur wants to talk he employs all four of the noted behaviors almost precisely at once. He presents a unified front to the teacher, making it clear that he is intending to get the floor. This picture of his behavior seems to be consistent with the teacher's characterization of him as a "leader" among the children and as an active participant in the circle.

Louise, on the other hand, has been enigmatic to the teacher. She is of large physical size, and the teacher has described feeling that Louise "creeps up on her" during circles. When looking at the graphic representation of Louise it is clear that she often moves up and down and in and out simultaneously. Since no hand movement or verbalization generally accompanies such movement, it is difficult to tell if Louise is attempting to gain the floor or not. What does emerge, however, is a snake-like pattern of movement in which Louise seems to be, indeed, 'creeping up' on the teacher.

Arthur talks more often during the four minutes analyzed, but he talks in quick bursts and moves as he talks. Louise, on the other hand, holds the floor only once. She talks for a very long time and is eventually cut off by the teacher. She does not move a great deal while talking.

Leaving Louise and Arthur briefly, the team looked at the teacher's behavior during those first four minutes. Again they chose to chart salient movements— head and hand movements, gaze direction, and the presence or absence of talk. The class group seemed to divide naturally into thirds— left, center, and right— in receiving the teacher's gaze. However, the teacher looked at the center section almost half of the time and at the right hand section (containing Louise and Arthur) nearly all of the rest of the time.

For the purposes of contrast, therefore, the team decided to take a microanalytical look at one of the students from the third of the group receiving least of the teacher's gaze. The

team quickly found that this student (Lee) did few of the behaviors of Arthur and Louise. He was chosen in part because he shared some traits with the other two students: he is of large physical size, a first grader, and a student who often sits on the outer rim of the circle. However, he differs from both of them in that he is very quiet and does not move quickly. Although Lee is quiet, however, the teacher has never seemed to doubt his attention. She refers to him as "academic" and feels no need to 'check up on him' by calling on him.

In charting his behaviors the team realized that most of the behaviors selected for Arthur and Louise simply didn't apply for Lee. He did not speak alone at all, never raised his hand, but did move his head and move in and out slightly. It is interesting that he moved most while the teacher was talking— perhaps behaviorally demonstrating her sense that, although virtually silent, he was a person who listened and "paid attention" during circles.

The implications of this brief and cursory look at how some simple microanalytical techniques might be applied in addressing a teacher's assessment of, or difficulties with, particular children are that there really seem to be behavioral correlates to the ways a teacher feels about children that can be spotted easily. Perhaps this kind of data will be an important ingredient in the teacher's assessments of children or in her decisions about how and why she organizes activities in the way she does. If the teacher wishes to intervene in her own setting,

she has the means to document the ways in which that intervention might change actual behavior- something more concrete and perhaps less threatening that 'feelings'—and something that is critical to the genesis of those feelings.

The early work on this segment suggests further research. The team hopes to look in more detail, for instance, at the function of gaze direction. They hope to consider amount of talk, the syntactic and semantic features of that talk (including topical relevance); at paralinguistic features such as pitch, loudness and rate of speech; and at other nonverbal behaviors that appear to covary with them. Finally the team hopes to return to the original question, linking the analysis of behavior which has taken place at a low level of inference back to the feelings and problems which initially prompted the question. In this way the team hopes to discover how the ways in which children use talk and movement help to create particular impressions of themselves and locate them in their respective places in the larger social order of the classroom.

Rationales for the Method

There are ethical, intellectual, and practical reasons why it has been worthwhile and important to adopt such an ethnographic and collaborative method of research. This process treats the teacher and children not as objects of study, but as active subjects of great interest and importance. The teachers' opinions are valued. She is seen as a vital member of the team. Her cooperation is essential to the process. The entire oper-

ation becomes more congenial and the findings benificial to all involved. Both parties go away having gained something of value.

The system essentially delegates the role of change agent not to an outside consultant, but to the people who possess in many ways the most direct and explicit power and responsibility to do things in the setting. The ethnographer does not merely acquire data in the setting and depart, nor does she generate in isolation theories or treatments which ought to be applied to the members. She is an integral part of the scene gathering both information that will be of use and interest in the development of a unified theory of classroom interaction, and facilitating by means of her expertise in certain research methods, ways for the teacher to gain a new kind of internal distance on her role.

This method might be applied on a larger scale in schools. There is a need for in-service work and continuing education courses which will help teachers share experiences, solutions and raise individual self-esteem and awarness.

Recently the Executive Secetary of the Massachusetts Teachers Association commented on the need for and interest in revolutionary forms of in-service work which would give teachers the major role on determining the nature and direction of the in-service work and staff development (The Common, March, 1976).

Practically speaking this method of field work could be modified to benifit most public school systems. The method proposed would utilize two resources frequently not fully exploited in schools——the videotape equiptment which almost every school system has and often only minimally uses and the teams

and/or friendship groups that exist among classroom teachers in any given building.

Faculties have tended to become more stabilized in the past few years. Pre-established familiarity, trust and a working relationship among small groups have been determined. The members have a head start in that they already know and share much ethnographic data that an outsider would have to work quite hard to assimilate. Many schools have curricula , grade levels and classroom settings based upon an established team approach. Rather than have a full time ethnographer follow the teacher around, the emphasis here would be to help the members of the team become inside change agents,working with their peers, cooperating in an effort to improve their setting or themselves. They would give or take no undue power but generate a source of energy and impetus for idea exchange and dialogue among themselves..

This method of evaluation and field work also confronts the problem of the loniness shared by self-contained classroom teachers (Sarason, 1971). These teachers have friends among their colleagues but rarly get to share individual professional techniques, problems or experiences with one another. They are assigned (confined) to their respective rooms, children, and areas of expertise. They often feel isolated, defeated and overwhelmed by their own problems which they tend to internalize or ignore due to their isolation. They often never admit to difficutlies, inovations or successes, feeling, "Who really cares?" or "It's me—with or against these twenty-five children."

In research in the context of discovery rather than proof, the social scientist is the instrument and thus puts her/himself through changes in order to learn about the phenomen of interest. (S)he does not apply treatment to the environment but focuses rather on isolating, describing, discovering the dynamics of the environment— what is predictable about it, how it functions, what kinds of breakdowns can and do occur. By making the teacher a co-researcher it is possible for the same thing to happen to her. It is in this way that a teacher's behavior could be said to have changed— by having a new experience in a familiar setting. If teachers were to share in the process in the absence of a trained ethnographer, it is not difficult to imagine that they could become eyes and ears for each other on a continuing basis using both their member knowledge and the techniques of field research. They would work together as peers, avoiding the awkward tendency for researchers *from* the outside to take or have attributed to them more power/authority than the teachers with whom they work. Peers working together could become sources of idea exchange and dialogue for one another in creatively thinking about classroom problems.

Footnotes

[1]Viewing sessions are essentially open-ended interviews with participants who have been videotaped. In the sessions they view themselves on tape and comment freely and/or answer questions about their participation in the situation that has been taped. In the early stages of the project reported the teacher was invited to view herself on tape and comment freely. In this way the researcher(s) hoped to learn about the teacher's segmentation of time and space and activity as well as her typologies for people and events. The nature of the viewing session has changed and evolved during the course of the research and is discussed in more detail in the body of the paper.

[2]Microanalysis is defined for the purposes of this paper as the careful viewing of selected behaviors—verbal and/or nonverbal—as they occur across time. In this paper a sample of microanalysis of social interaction is presented. It is in part by means of microanalysis that teacher and researcher alike hope to gain insight into the behavioral sources and correlates of the thoughts and feelings that they have about the social situations in which they participate or which they observe.

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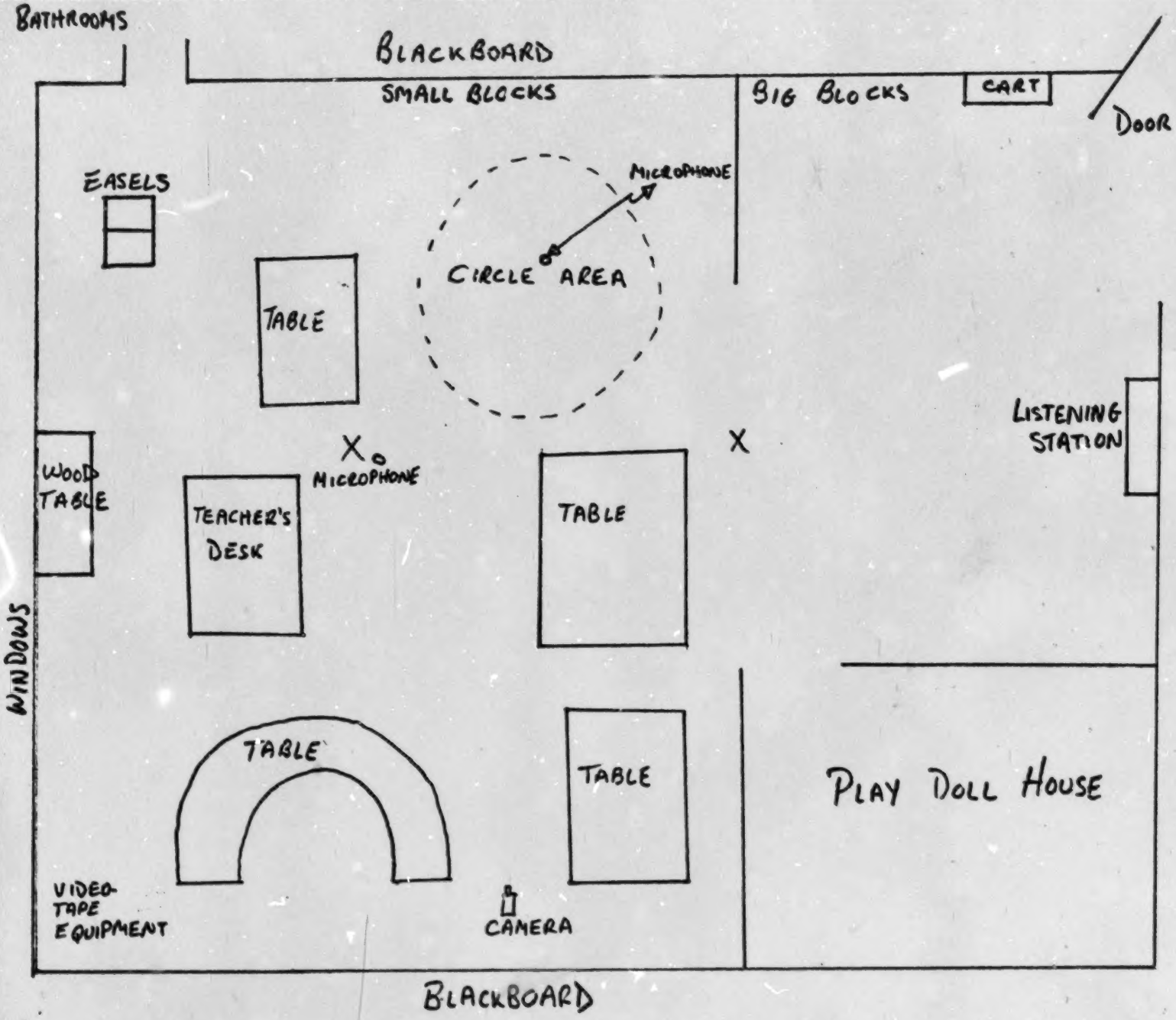
Appendix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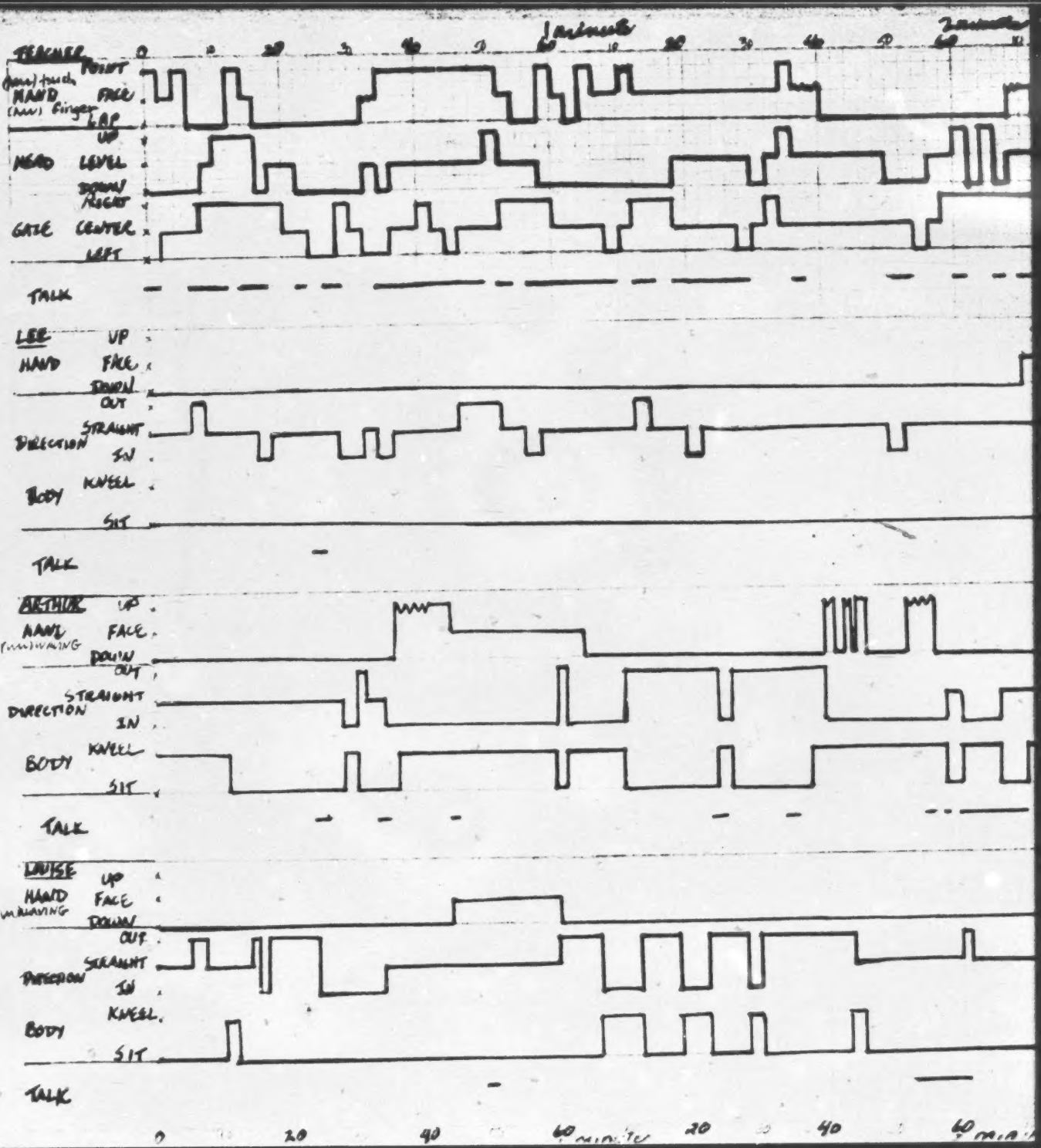
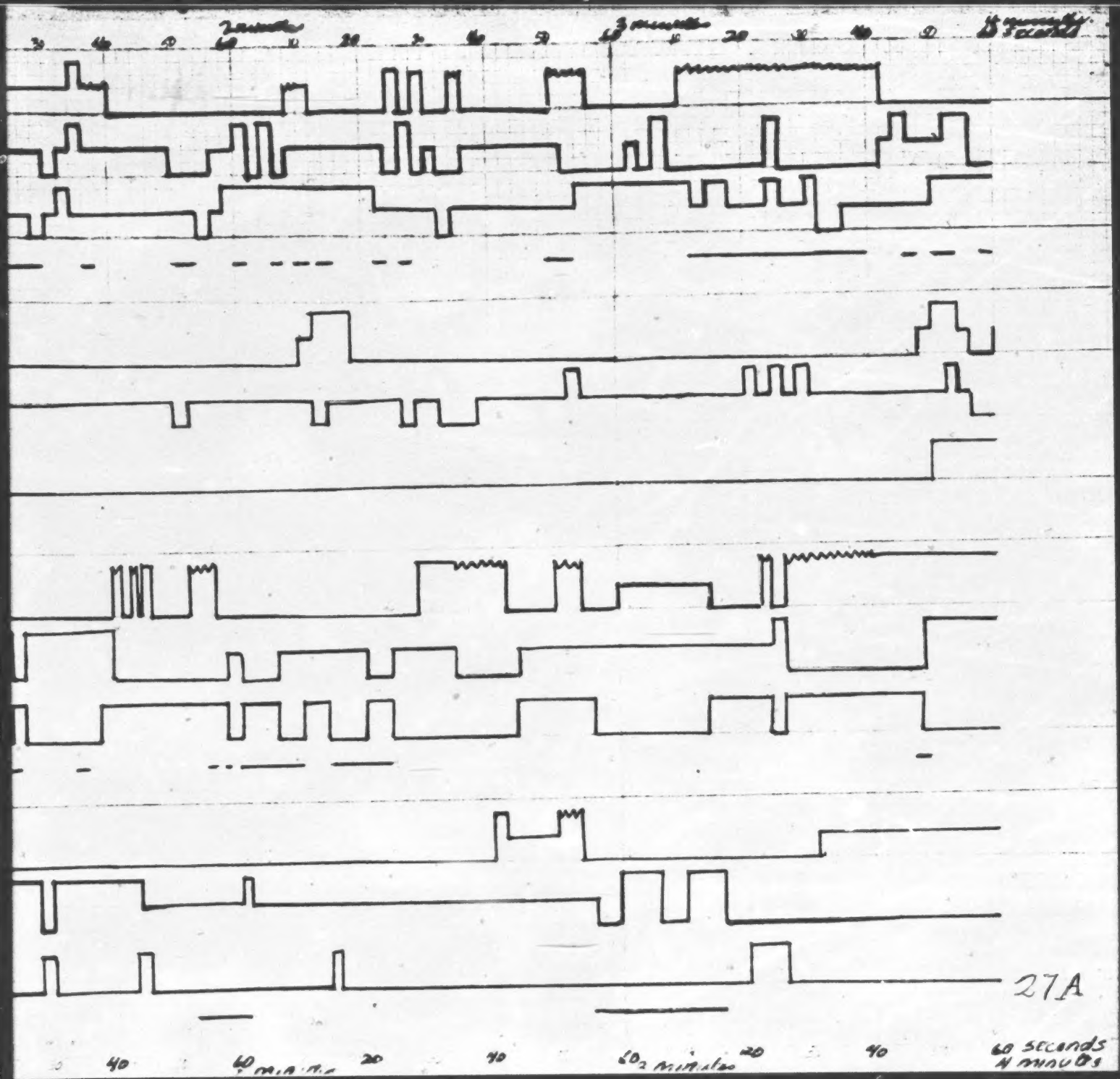
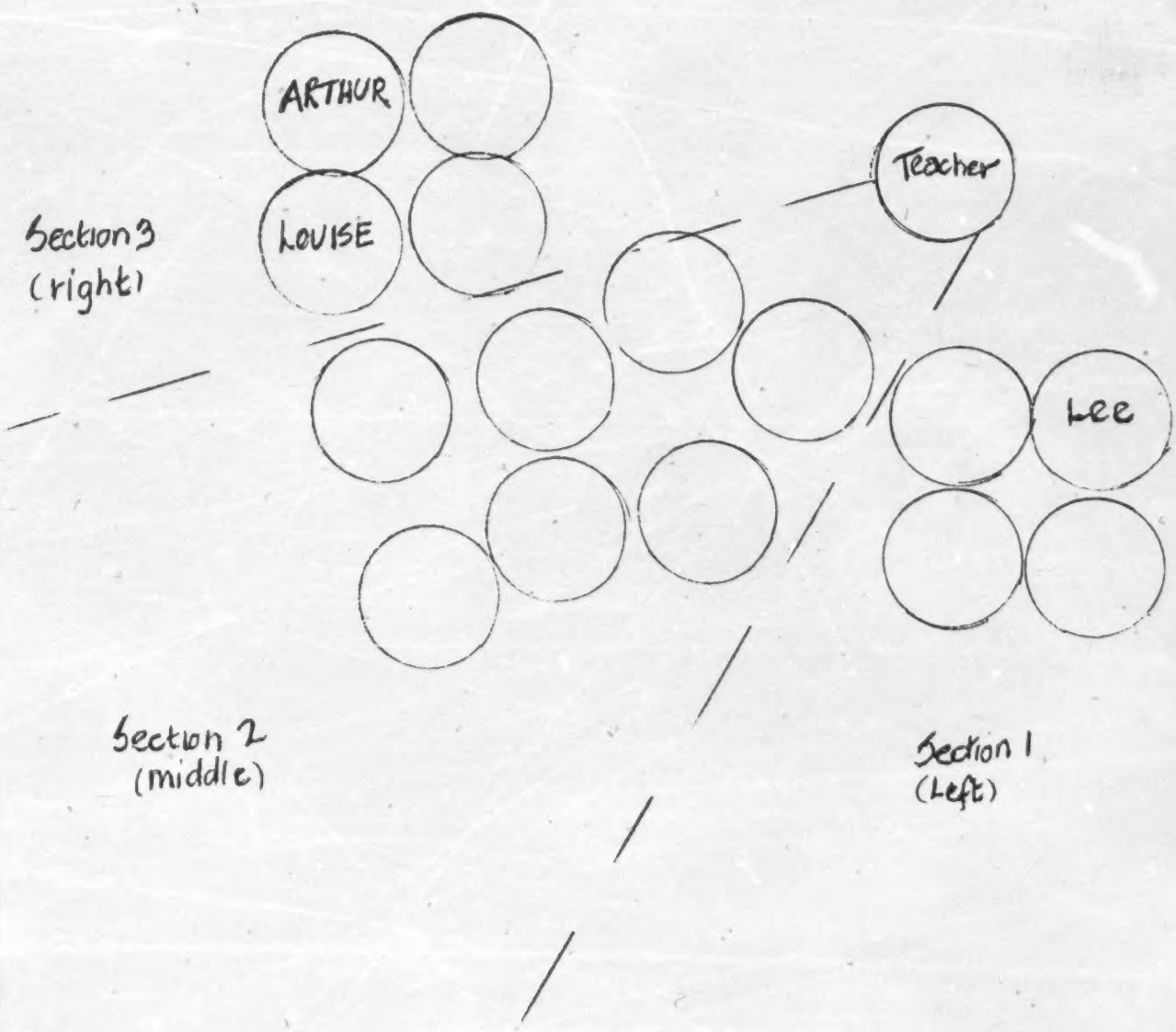
CAMERA
BLACKBOARD


TEACHER
HAND
POINT
FACE
LAP
HEAD
UP
LEVEL
DOWN
RIGHT
GAZE
CENTER
LEFT
TALK
LEE
HAND
UP
FACE
DOWN
OUT
DIRECTION
STRAIGHT
IN
BODY
KNEEL
SIT
TALK
ARTHUR
HAND
UP
FACE
DOWN
OUT
DIRECTION
STRAIGHT
IN
BODY
KNEEL
SIT
TALK
LOUISE
HAND
UP
FACE
DOWN
OUT
DIRECTION
STRAIGHT
IN
BODY
KNEEL
SIT
TALK
0
20
40
20
40


27A


ARTHUR
LOUISE
Teacher
Lee
Section 3
(right)
Section 2
(middle)
Section 1
(Left)